Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended)   A method for iteratively decoding a received signal, the method comprising:

iteratively decoding the received signal;

creating a signature from values of an Nth decoding iteration;

comparing the signature of the Nth iteration to a signature of an ~~N-1~~ (N-1)th iteration; and

stopping the process of iterative decoding if the signature of the ~~N-1~~ (N-1)th iteration is equal to the signature of the Nth iteration.

2. (Original)   The method of claim 1 further comprising outputting a decoded data signal related to the received signal.

3. (Original)   The method of claim 1 wherein the iteratively decoding comprises computing an estimate of the received signal.

4. (Original)   The method of claim 1 wherein the iteratively decoding utilizes parallel turbo codes.

5. (Original)   The method of claim 1 wherein the iteratively decoding utilizes serial turbo codes.

6. (Original)   The method of claim 1 wherein the iteratively decoding utilizes one or more of the group consisting of product codes, low density parity check codes (LDPC), Reed Solomon codes, graph codes, and belief propagation codes.

7. (Original)   The method of claim 1 wherein the creating of the signature comprises:
receiving extrinsic values from the Nth iteration;
converting the extrinsic values into hard values; and
accumulating the hard values in a signature circuit to form a signature.

8. (Original)   The method of claim 7 wherein the accumulating the hard values comprises:
receiving the hard values in a combinational circuit;
receiving the output of a buffer in the combinational circuit;
forming a combinational value from a hard value and the output of the buffer;
providing the combinational value to the input of the buffer; and
reading the state of the buffer to provide a signature value.

9. (Currently Amended)   A method for iteratively decoding a received signal, the method comprising:
iteratively decoding the received signal;
creating a signature from values of an Nth decoding iteration;
comparing the signature of the Nth iteration to a signature of an ~~N-2~~ (N-2)th iteration; and
stopping the process of iterative decoding if the signature of the ~~N-2~~ (N-2)th iteration is equal to the signature of the Nth iteration.

10. (Original) The method of claim 9 further comprising outputting a decoded data signal related to the received corrupted data signal.

11. (Original) The method of claim 9 wherein the iteratively decoding comprises computing an estimate of the received signal.

12. (Original) The method of claim 9 wherein the iteratively decoding utilizes parallel turbo codes.

13. (Original) The method of claim 9 wherein the iteratively decoding utilizes serial turbo codes.

14. (Original) The method of claim 9 wherein the iteratively decoding utilizes one or more of the group consisting of product codes, low density parity check codes (LDPC), Reed Solomon codes, graph codes, and belief propagation codes.

15. (Original) The method of claim 9 wherein the creating of the signature comprises:
      receiving extrinsic values from the Nth iteration;
      converting the extrinsic values into hard values; and
      accumulating the hard values in a signature circuit to form a signature.

16. (Original) The method of claim 15 wherein the accumulating the hard values in a signature circuit comprises:
      receiving the hard values in a combinational circuit;
      receiving the output of a buffer into the combinational circuit;
      forming a combinational value from a hard value and the output of the buffer;
      providing the combinational value to the input of the buffer; and
      reading the state of the buffer to provide a signature value.

17. (Currently Amended)   An iterative decoder comprising:
      means for iteratively decoding a received signal;

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means for generating a signature from values of an Nth decoding iteration;

means for comparing the signature of the Nth iteration to a signature of an ~~N-1~~ (N-1)th iteration; and

means for stopping the process of iterative decoding if the signature of the ~~N-1~~ (N-1)th iteration is equal to the signature of the Nth iteration.

18. (Original) The iterative decoder of claim 17 further comprising means for outputting a decoded data signal related to the received corrupted data signal.

19. (Original) The iterative decoder of claim 17 wherein the means for iteratively decoding comprises means for computing an estimate of the received signal.

20. (Original) The iterative decoder of claim 17 wherein the means for iteratively decoding utilizes parallel turbo codes.

21. (Original) The iterative decoder of claim 17 wherein the means for iteratively decoding utilizes serial turbo codes.

22. (Original) The iterative decoder of claim 17 wherein the means for iteratively decoding utilizes one or more of the group consisting of product codes, low density parity check codes (LDPC), Reed Solomon codes, graph codes, and belief propagation codes

23. (Original) The iterative decoder of claim 17 wherein the means for generating a signature comprises:

means for receiving extrinsic values from the Nth iteration;

a converter for converting the extrinsic values into hard values; and

a signature circuit for accumulating the hard values to form a signature.

24. (Original) The iterative decoder of claim 23 wherein the signature circuit comprises:

      a combinational circuit for receiving the hard values;

      means for receiving the output of a buffer in the combinational circuit;

      means for forming a combinational value from a hard value and the output of the buffer;

      means for providing the combinational value to the input of the buffer; and

      means for reading the state of the buffer to provide a signature value.